

RSA for irregular structures

For complex or **irregular structures** which do not have clearly defined orthogonal directions, it may be unclear as to how the orientation of [response-spectrum](#) analysis should be applied. In the paper entitled [Orthogonal Effects in RSA](#) , Dr. Wilson explains that combined directional effects may be accounted for more effectively by using an alternative method in which the SRSS combination of two 100-percent spectra analyses is applied in any direction, or along either orthogonal axis. This method is valid because design forces and results are independent of the reference system used. Further, this method also accounts for independent and simultaneous ground motions which occur normal to those along the principal direction.

References

- Wilson, E. (1995). [Orthogonal Effects in RSA](#). Berkeley, CA: Computers and Structures, Inc.